

SAM Open House

Welcome to Sample Analysis at Mars open house day at Goddard Space Flight Center. First stop: a scale model of SAM, the supercompact chemistry lab that will fly to Mars next year aboard the Mars Science Laboratory Curiosity rover.

This is the breadboard room. Here the scientists have recreated all the lab gear and controls that are packed into SAM. They run tests with it that will help them interpret the data they get back from Mars.

SAM is a fantastically complex device. Here's a roadmap on the wall of all its teeny tiny test chambers and gadgets.

Behind that plastic film is the mars environmental test chamber. Here is where the scientists will keep a working copy of SAM under the temperature and pressure conditions of Mars. It's sort of "Mars in a box."

And there it is – the actual SAM instrument that will go to Mars. The bunny-suited guys are techs working on SAM in a clean room.

SAM has been undergoing deep-freeze testing, and now the techs have to remove the little sensors that the engineers had used to take measurements during the tests.

One last look at the amazing mobile chemistry lab that will blast off for Mars in 2011. Bon voyage.